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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,522	09/14/2001	Zhan Cui	36-1484	4379
23117	7590	11/28/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			KANG, INSUN	
			ART UNIT	PAPER NUMBER
			2193	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/936,522	Applicant(s) CUI ET AL.	
	Examiner Insun Kang	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 9/7/2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-16, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-16, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This action is in response to the amendment filed 9/7/2006.
2. As per applicant's request, claims 1-4, 7, 10-13, and 16 have been amended, claims 18 and 19 have been added, and claims 9 and 17 have been canceled. Claims 1-7, 10-16, 18, and 19 are pending in the application.

#### ***Claim Rejections - 35 USC § 101***

3. The rejection to claims 1-7 has been withdrawn due to the amendment to the claims.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7, 10-16, 18, and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Marazakis et al. (Management of Work Sessions in Dynamic Open environments, 8/1998) hereinafter referred to as "Marazakis" in view of O'Brien et al. ("Agents of change in business process management," BT Technol J. 1996) hereafter O'Brien.

Per claim 1:

Art Unit: 2193

Marazakis discloses:

- a process management system arranged in operation to manage resources to carry out processes to provide one or more services and a performance system for use in storing and analyzing data generated during use of said process management system (i.e. "Management applications, acting as clients of the monitor service, may invoke the GetRecs... GetAllRecs methods in order to correlate log records...collecting performance-related data to identify bottlenecks...the producers of log records can provide sufficient state information," page 5 second paragraph of the left column) data storage for storing:

a) service definitions each identifying a plurality of processes involved in provision of a service by the process management system (i.e. "The entry for a resource in the repository includes all the essential information that enable monitoring and control of the component...Aurora monitor service. It consists of methods to register and unregister a task...to provide a log record...to retrieve either a specific record identified by its persistent key of type RECID," page 5 first paragraph of the left column)

b) a log of processes allocated, by the process management system in use, to respective resources managed by said process management system to provide a service ("its monitoring mechanisms that allows each service provider to log information about its own state and its interactions with others, supports monitoring of pair-wise interactions between parties. A session may span multiple distributed resources, owned by autonomous providers, Keeping track of the activities of tasks is achieved by requiring each container to register with the logging system...the logging systems of

session managers constitute the basis of a distributed monitoring infrastructure,” page 4, first paragraph of the right column)

c) a log of states of said resources, arising in use of the process management system to provide the service, with respect to carrying out the allocated processes (“its monitoring mechanisms that allows each service provider to log information about its own state and its interactions with others, supports monitoring of pair-wise interactions between parties... The Aurora monitor enables a client...to collect all log records about events of interest to the execution of a workflow...tracking the progress and current state of service flows,” page 4, first paragraph of the right column)

-one or more inputs for receiving d) a service request identifying a performance service to be provided by the performance analysis system to the process management system (“Management applications, acting as clients of the monitor service, may invoke the GetRecs... GetAllRecs methods in order to correlate log records...collecting performance-related data to identify bottlenecks...the producers of log records can provide sufficient state information,” page 5 second paragraph of the left column)

e) resource allocation and resource state data, provided by said process management system in use, for storage in said log of processes and said log of states (page 2, right column, second paragraph)

-a performance analyzer for analyzing the logged process and state information (“Management applications, acting as clients of the monitor service, may invoke the GetRecs... GetAllRecs methods in order to correlate log records...collecting performance-related data to identify bottlenecks...the producers of log records can

Art Unit: 2193

provide sufficient state information to enable a management application to cancel or modify the effects of an action,” page 5 second paragraph of the left column)  
-the performance analysis system being arranged to generate, and output to the process management system, a performance measure with respect to said resources, based on analysis of the logged process and state information(“Management applications, acting as clients of the monitor service, may invoke the GetRecs... GetAllRecs methods in order to correlate log records...collecting performance-related data to identify bottlenecks...the producers of log records can provide sufficient state information to enable a management application to cancel or modify the effects of an action,” page 5 second paragraph of the left column).

Marazakis does not explicitly teach that the workflow management system assigning tasks to agents according to the workflow specification is a multi-agent system comprising a plurality of collaborative agents arranged in operation to manage among themselves resources to carry out processes. However, O'Brien clearly teaches that such multi-agent system was known in the pertinent art, at the time applicant's invention was made, to achieve collective goals that are difficult to accomplish by a single agent ( i.e. “collaboration between customer and provider agents,” page 134, Fig 1). It would have been obvious for one having ordinary skill in the art to modify Marazakis' disclosed system to incorporate the teaching of O'Brien. The modification would be obvious because one having ordinary skill in the art would be motivated to arrange the disclosed agents to work collaboratively towards a common goal as suggested by O'Brien (page 134).

Art Unit: 2193

Per claim 2:

The rejection of claim 1 is incorporated, and further, Marazakis teaches:

the log of states is maintainable during use of an identified multi-agent system in providing more than one instance of a service such that performance of at least one resource may be analyzed with respect to each of said instances ("This infrastructure enables tracking the progress and current state of service flows, as well as maintaining the interaction history for each participant," page 4 first paragraph of the right column) as claimed.

Per claim 3:

The rejection of claim 1 is incorporated, and further, Marazakis teaches:

the log of states is maintainable during use of an identified multi-agent system in providing instances of at least two different services, such that performance of at least one resource may be analyzed with respect to each of said instances("level of performance of all entities involved in workflow processing be tracked and maintained according to predetermined levels," page 1 first paragraph of the right column) as claimed.

Per claim 4:

The rejection of claim 1 is incorporated, and further, Marazakis teaches:

the performance analyzer measures the number of occurrences of a particular state for respective resources and the performance measure is determined according to whether the number of occurrences reaches a predetermined threshold ("level of performance of

Art Unit: 2193

all entities involved in workflow processing be tracked and maintained according to predetermined levels,” page 1 first paragraph of the right column) as claimed.

Per claim 5:

The rejection of claim 4 is incorporated, and further, Marazakis teaches:

rein the threshold comprises a percentage number of occurrences of said particular state in relation to the number of occurrences of that state plus other states (page 1 first paragraph of the right column) as claimed.

Per claim 6:

The rejection of claim 1 is incorporated, and further, Marazakis teaches:

the states available to a respective resource in carrying out an allocated process comprise at least failure and success (“collecting performance-related data to identify bottlenecks, as well as for enabling flexible recover and compensation in the event of failures that cause exceptions. Recovery and compensation are possible since the producers of log records can provide sufficient state information,” page 5, second paragraph of the left column) as claimed.

Per claim 7:

The rejection of claim 1 is incorporated, and further, Marazakis teaches:

the data received from the multi-agent system in use includes a start time for provision of the relevant service and at least one of said log of processes and said log of states also logs the time taken by at least one identified resource to carry out a process (“Log records can simply define the start and end of steps in a session...the name of the

Art Unit: 2193

resourced used, the start and ending time,” page 4 second paragraph of the right column) as claimed.

Per claims 10-16, they are the method versions of claims 1-7, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 1-7 above.

Per claim 18, this is another system version of claim 1, respectively, and is rejected for the same reasons set forth in connection with the rejection of claim 1 above.

Per claim 19:

The rejection of claim 18 is incorporated, and further, Marazakis teaches:

Representations of service agreements made between said agents, and said performance data indicates whether said service agreements have been met (i.e. service-level agreements, page 3).

### ***Response to Amendment***

6. The amendments to the claims filed on 9/7/2006 do not comply with the requirements of 37 CFR 1.121(c) because: Per claim 10, in e), “resource allocation and resource state” was previously presented but is currently underlined. It is considered to be a simple error. Clarification is requested. To advance the prosecution, further examination has been conducted.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-7, 10-16, 18, and 19 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 571-272-3724. The examiner can normally be reached on M-R 6:30-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MENG AI AN can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2193

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

I. Kang  
Examiner

*q.c.*

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